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## 6. Farkle

**Program Name:** Farkle.java

**Input File:** farkle.dat

Farkle is a game where players throw dice, and based on the score seen, employ different strategies. In this program, you will throw a 6-sided fair die (with numbers 1-6 on the six faces) repeatedly until the same number turns up several times in a row; this is called a round. This round is repeated 100 times, and the average number of rolls before the round ends is calculated and reported. For example, if we say that the same number has to appear 3 times in a row, the first two rounds might look like below, where first 3 appears thrice and then 4 appears thrice.

```
1221333
4634125444
```

The average of the number of rolls for these two rounds is  $(7 + 10)/2 = 8.5$ . Note that in your actual program, you will have 100 rounds instead of 2.

You will use the Random class from java.util, with its nextInt method to simulate the die roll by calling rand.nextInt(int), where rand is a Random class object. One game consists of:

- (1) creating a Random object with the provided seed by setting an object of class Random to Random(seed\_value)
- (2) calling nextInt repeatedly until the same number appears several times in a row
- (3) repeating steps 1 and 2 100 times and
- (4) reporting the average number of rolls per round (averaged over the 100 rounds), rounded to the nearest single decimal place.

### Input

The input file has several line with two integers on each line. The first is the seed value to be used for the game. The second is a number between 2 and 5 inclusive that specifies the number of times a roll value must appear before each of the 100 rounds per game is complete.

### Output

Print all the rolls of only the first round on a line, followed on a new line by the average number of rolls for one hundred rolls, rounded to the nearest single decimal place.

### Example Input

```
123 3
1234 2
124 2
223 4
```

### Example Output

```
333
38.2
366
7.7
355
6.7
261361542512132332363552413634632322624444
263.0
```